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TANGANYIKA TERRITORY

Annual Report of the Medical Department

for the year ended 31st December

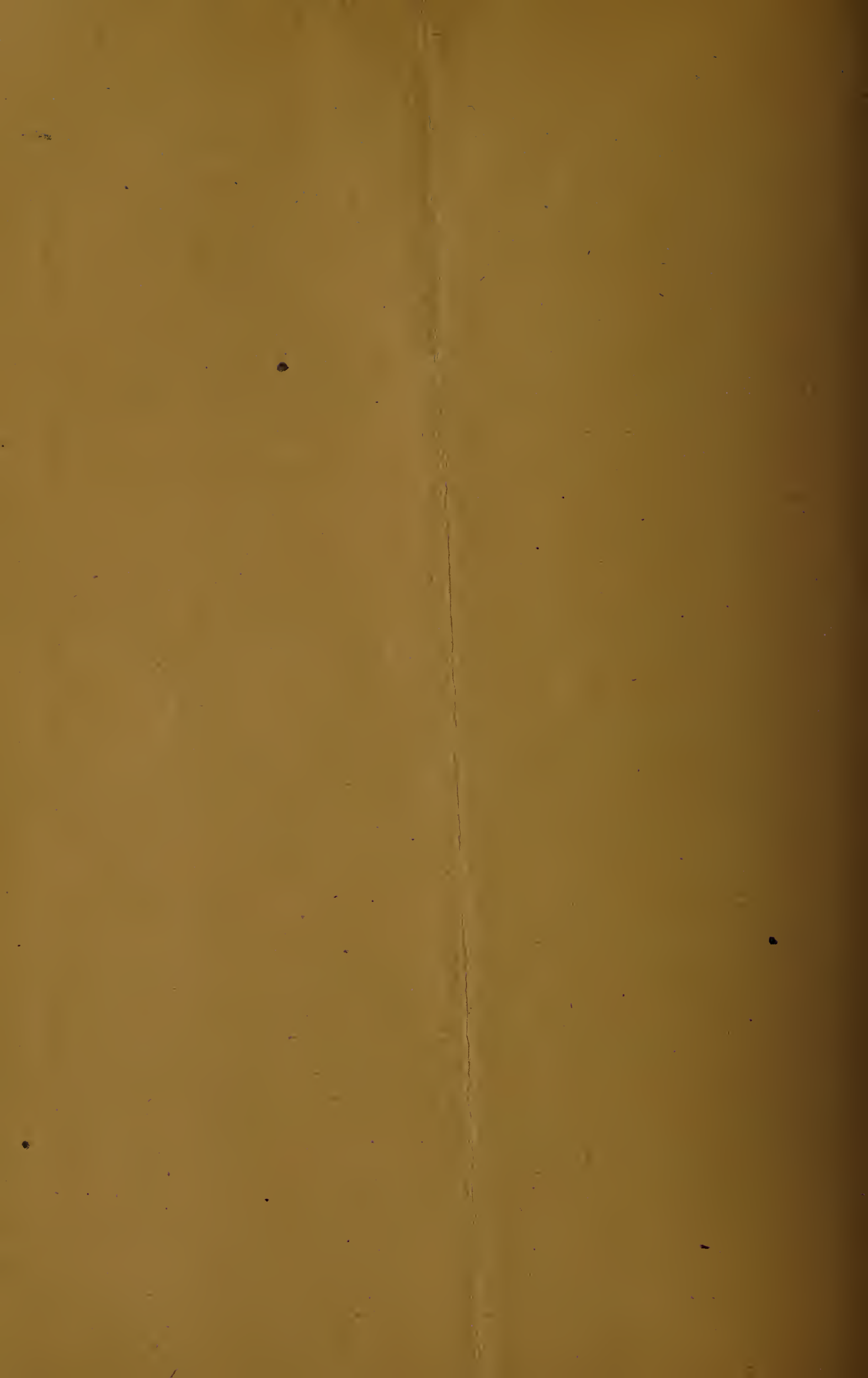
1944

1945

DAR ES SALAAM

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TANGANYIKA TERRITORY

Abridged Annual Report of the Medical Department for 1944

1. *Introductory and Acknowledgement.*—This is the last Annual Report for which the writer will be responsible, and that is the reason for its length being greater than those for the years 1939-1943 which were abbreviated in accordance with the instructions of the Secretary of State. Nevertheless it is almost entirely a factual record of work accomplished by the Medical Department; it contains little in the way of deduction or recommendation for the future based on the information accumulated and recorded in the departmental reports from 1920 onwards.

2. The department, like others, has latterly been working under great strain in the endeavour to meet the ever-growing demand of the public for a

ERRATA

- (i) *Page 20, paragraph 132.* In lines one and two, for “2,082 pulmonary and 243 non-pulmonary” substitute “3,116 pulmonary and 1,397 non-pulmonary”.
- (ii) *Page 25, Appendix.* In (2), Communicable Diseases — Surface Inoculation and Droplet Infection Group — for cases of Tuberculosis

“Pulmonary	...	...	...	...	2,082
Non-pulmonary	...	...	...	...	2,431”
substitute					
“Pulmonary	...	...	...	...	3,116
Non-pulmonary	...	...	...	...	1,397”.

Tanganyika has no cause to be ashamed.

4. The need for expansion of the medical service in the immediate post-war years has been assessed and the recommendations for development were published in March. It remains to be seen how far finances and the availability of trained personnel will make them practicable. The present establishment is far from complete; let us only hope that the Territory's finances will not require the reduction of social services instead of their expansion. The remote consequences of retrenchment of educational and medical services do not become obvious until many years afterwards; for example the drastic limitation of higher education of Africans which followed the 1931 depression is now being felt in the medical service, because such a limited number of Tanganyikans qualify for entrance to the full medical training course in Uganda.

5. Comment has been made at times that the surgical work performed by members of the staff has not received that amount of mention in the more recent annual reports which it deserves. It is undoubtedly the case that many branches of our work have not received the mention they deserve; surgery, whether general or in its special branches of ophthalmology, ear, nose and throat, or gynaecology, all deserve more detailed comment; so do many special branches of medicine and the writer has not felt justified in detailing the number of operations, whether major or minor, performed at different hospitals any more than the volume of other work, often of a specialist nature, performed in other branches of the department. Credit belongs to the whole medical staff for the greatly increased output of curative work performed as a whole and the great volume of life-saving and sometimes spectacular operative surgical work annually performed by the staff is recognized and acknowledged therewith in the figures given in the Appendix.

6. It may be useful here to mention that the curative work of the department as measured by in- and out-patients treated has grown as shown by the output index as follows:—

Year		Index		Number of hospital units contributing
1921	...	11	...	31
1924	...	16	...	33
1929	...	30	...	55
1934	...	34	...	54
1939	...	40	...	57
1944	...	47	...	62

The work of the Native Authority dispensaries, not included above but over which the department exercises a measure of supervision, has grown from 369,735 new patients treated in 1931 to 1,311,316 treated at 341 dispensaries in 1944.

7. The writer also wishes to take this last opportunity of paying tribute to the medical individuals and organizations outside the Government service who contribute such an important quota to the sum of the medical services of the Territory. Missionary, charitable and industrial bodies and private practitioners have collaborated with officers of the department in countless directions and it would be invidious here to make special mention of individuals. Their reward lies in the satisfaction of knowing that lives have been saved, health restored and the community well served; our sincere gratitude is due to them.

8. The assistance given by the medical staff of the Forces must not be overlooked. Navy, Army and Air Force have given us close co-operation and assistance on innumerable occasions; if malaria control is mentioned in this connection it is only because the work of service officers in that direction has been on a larger scale and of more permanent character than in some others.

9. *Maintenance of Medical Services in War-time.*—The effects upon the staff of the Medical Department of the continuance of war conditions together with the strain imposed by the endeavour to deal with an ever increasing volume of clerical and administration work have become increasingly evident, but signs of strain are not confined to that department and even with the ending of the war no relaxation is in sight. The importance of securing overseas leave which will ease the strain on those who have not seen their families,

FOOTNOTE.—Memorandum on the Future Development of the Medical Services of Tanganyika Territory by the Director of Medical Services, 1942.

in some cases for seven years, has been recognized and an increasing number of government servants have been granted such leave. The position as regards staffing the medical posts for the next two years has been fully represented to Government but it is inevitable that medical facilities will be curtailed until the filling of the vacant posts allows of more adequate staffing of the stations. The strain on the senior members of the nursing service has also been very great owing to the constantly changing personnel. In illustration of this no less than thirty-four nursing sisters, of whom twenty had less than one year's service, were on duty at the European Hospital, Dar es Salaam, which carries an establishment of eight including the Assistant Matron.

10. With a diminishing medical staff and increasing demand for treatment and other medical services supervision of subordinate staff, which never was adequate, necessarily diminishes; and it is important that the public, who depend so much on the government medical staff, should realize some of the difficulties in providing the high standard of service which they have come, quite rightly, to expect. Dr. W. A. Young, who acted as Director during the writer's absence from the Territory from May to August, summed up the position in regard to the Lake Province of which he was in medical charge; his remarks in this connection may aptly be applied to the department as a whole:

“The control of epidemics, the treatment of sick, the improvement of sanitation, the examination and medical care and provision of records in regard to ever-growing numbers and sorts of people in whom Government is specially interested—employees, school-children, prisoners, soldiers, recruited labour, police cases, internees—all these duties have fallen like a perpetually buffeting and sucking surf upon a department which in this Province during 1944 has been almost bereft of clerical staff.”

11. In March proposals for the post-war development of the medical services were printed and published and some idea of the capital and recurrent cost of providing a service more nearly adequate for immediate needs, but not for expansion at the present rate of public demand, may be gained therefrom. The public must realize that if it is to have such services, and medicine is only one of many, it must be prepared to shoulder the cost; and our output of trained local staff is nowhere near meeting the present demand, let alone that of the near future. Moreover, supervision is costly and essential, if the earlier standard of quality is to be maintained together with the ever-increasing quantity demanded by the public of all races.

12. The demand by all races for increased and better hospital accommodation is only one of many but is one which is most obvious to the public; that of the African women for hospital and maternity services is very gratifying to those who have so long laboured to gain their confidence, but often embarrassing to the institutions responsible for providing it. The ancillary services which such accommodation requires are never appreciated until detailed plans and estimates have been prepared and the cost of providing them (up to £1,000 per bed) and maintaining them comes to be considered.

13. The recommendations of the Hospitals Improvements Committee appointed by the Governor in 1943 under the Chairmanship of the Director of Public Works to examine the question of accommodation and new equipment at the European, Sewa Haji and Infectious Diseases hospitals and the Central Laboratory at Dar es Salaam received further consideration and were

partially implemented. Work at the Sewa Haji Hospital and Laboratory was nearing completion by the end of the year but the construction of the new three-storeyed block at the European Hospital, comprising maternity, radiographic and electrophysio-therapeutic accommodation and administrative offices and extensions at the Infectious Diseases Hospital, had not yet received final approval of the heavy expenditure involved. Provision for electrical equipment and appliances (£9,000) and for other equipment for the Dar es Salaam hospitals (£5,000) and for an X-ray installation at the Infectious Diseases Hospital for tuberculosis work was included in the Estimates for 1945.

14. The lack of adequate dental services is the subject of justifiable complaint in most areas and prolonged efforts to improve the position have so far been unsuccessful. This has proved to be a source of embarrassment in the Lake Province and to the Senior Dental Surgeon.

15. The welcome extension of elementary laboratory facilities to all provinces, albeit with insufficient supervision, is a matter for congratulation to the Senior Pathologist who has trained the African Laboratory Assistants for them. Radiographic facilities are also in course of extension to all provinces; but all these call for more and more skilled supervision which is not at present available. Provision for X-ray installations, electro-therapeutic apparatus and electro-cardiograph (£4,000) and for physio-therapeutic equipment and appliances (£1,000) was included in the Estimates for 1945. Two new posts of Physio-therapist had not been filled substantively by the end of the year.

16. The famine conditions experienced in some areas in 1943 were not repeated but their sequelae continued to be observed in the form of diarrhoea and dysentery in the Lake Province, and the higher cost of food and essential articles of domestic use have contributed to a lower standard of African feeding to which is partly attributable a lower standard of health particularly in the larger towns.

17. The Medical Officer of Health of Dar es Salaam (Dr. G. A. Wilson) has reported a higher incidence of tuberculosis in the Asian and African populations to which over-crowding has contributed; and some regression of the standard of sanitation due to shortage of supervisory staff, with a greatly increased urban population now estimated at 55,000, is indicated by an increase of cases of enteric fever. A survey of the commercial area, in which the great majority of the Asian population reside, showed that of 400 buildings 126 were either under demolition notice or awaiting such a notice. They housed 18.8 persons per building, the remainder (265) housed 19.2 persons. Many of the Asian population are compelled, by reason of the complete cessation of private building during the war years, to live in such "ramshackle old buildings with primitive sanitation and in many cases without laid-on water".

18. The department is proud of its contribution to the medical services of the Forces, for which at the outbreak of war we furnished staff and equipment for a Casualty Clearing Station, a Field Ambulance and a Motor Ambulance Convoy, while staff was detailed and equipment set aside for a General Hospital and an Ambulance Train which were not actually mobilized. Fifteen of the medical staff served in various capacities and five still remain with the Forces, in addition to eight of the Health Inspectors and many of

the African Staff; three of the former and some forty trained Africans are still so seconded. Our men acquitted themselves well on active service in the Somaliland and Abyssinian campaigns and we look forward to their return with the valuable experience and self reliance which service in the field inculcate.

19. Two medical officers were seconded from the R.A.M.C. for civilian duty throughout the year and the arrival on 28th December of Dr. P. A. T. Sneath, O.B.E., E.D., to take up the appointment of Deputy Director of Medical Services on release from the Forces eased a situation which was becoming intolerable. No substantive Deputy had been functioning since Dr. Maclean's secondment to the Forces on the outbreak of war. Dr. S. Forrest's appointment as A.D.M.S. and later D.D.M.S. has since been notified and Dr. Wilkin was promoted to be a Senior Medical Officer. Misses Craig and Shelton were promoted to be Assistant Matrons and Miss Leighton to be Senior Health Visitor. Mr. George was promoted to be Senior Health Inspector.

20. *Honours*.—Congratulations are due to Dr. Wilkin, O.B.E., and Mr. Allinson, M.B.E., who received their well-earned Honours in the Birthday List, and to Mr. Adrian Atiman of the White Fathers Mission at Karema who received the Certificate of Honour and Badge for fifty-five years valuable and devoted medical service on the shores of Lake Tanganyika.

21. *Medical Work, Hospital Services*.—As a result of the constantly increasing demand for treatment evidenced by the figures for new attendances reported from the Government hospitals and dispensaries many institutions have been seriously over-crowded, notably at Tanga where some 300 in-patients have been occupying accommodation intended for 200. The comparative figures for the five-year period are given in the Appendix.

22. As an example of the growing demand for hospital services in the out-stations the small hospital at Kyela in the densely populated area at the north-end of Lake Nyasa has hitherto been staffed by a hospital assistant. For its twenty beds, it treated 418 in-patients and 16,546 out-patients, a volume of work exceeded at only two of the stations staffed by sub-assistant surgeons. Kyela is the outstanding example of a busy station where the amount and nature of the work fully justify the posting of a qualified medical practitioner if only the staff position permitted.

23. The following administrative districts or sub-districts are still without qualified medical practitioners; their populations (1931 census) are given in brackets: Manyoni (43,593), Tunduru (46,479), Liwali (not known), Njombe (125,463), Handeni (63,930), Kasulu and Kibondo (not known), Kwimba (200,062). Masailand had to be left without a medical officer whose removal was necessary on urgent medical grounds.

24. At Tengeru Camp for Polish refugees near Arusha, staffed entirely by Poles, 3,355 in-patients and 11,970 out-patients were treated but without throwing any severe strain on the government medical services. At Ifunda Camp (Iringa District) 610 in-patients, and at Kidugala Camp (Njombe District) 896 in-patients were treated.

25. The total first attendances recorded at the rural dispensaries maintained by the Native Authorities reached the record figure of 1,311,316, an increase of fourteen per cent over 1943. While it is not claimed that the treatment given at these institutions is adequately supervised or efficient it

goes some way to meet the increasing demand for western medicine among the country population. The dispensaries provide that contact with the countryside which enables us to keep an eye on the public health and a nucleus from which, as staff and facilities increase, we may bring the benefits of preventive and curative medicine to an ever-increasing proportion of the rural population which they serve. The man in charge is the family doctor to thousands and needs continuous education, stimulation and support.

26. Valuable medical work is carried on by many missionary and charitable organizations of different religious communities with which the closest co-operation practicable under existing staff difficulties is maintained. Training of African staff by some of these bodies provides an additional source of subordinate medical assistance of great value to the Territory. Help is given by Government in the form of grants for drugs and medical equipment and staff to many of such bodies, particularly when they maintain qualified medical practitioners. The financial provision for this purpose has been increased in the Estimates for 1945 from £2,000 to £5,000; and a sum of £750 for grants to approved training schools for African female nurses was provided in 1944, to be continued for three years.

27. *New Buildings.*—The demand for increased accommodation has been met to some extent by the construction of additional buildings of both permanent and temporary type.

28. Additional beds for 752 in-patients at an estimated cost of £50 per bed were provided as below against the return of ex-soldiers requiring medical treatment. Much of this accommodation is of a temporary nature but it will provide "overflow" beds for less serious cases, those requiring nursing being accommodated in the permanent wards. Of these 418 were provided in buildings of temporary construction and 334 in permanent materials at twenty-two centres:—

EASTERN PROVINCE	...	Dar es Salaam	...	...	96
	...	Morogoro	...	...	10
	...	Kilosa	...	...	20
LAKE PROVINCE	...	Mwanza	...	...	72
	...	Musoma	...	...	48
	...	Shinyanga	...	...	36
	...	Bukoba	...	...	24
WESTERN PROVINCE	...	Tabbra	...	...	36
	...	Kigoma	...	...	12
TANGA PROVINCE	...	Tanga	...	...	36
	...	Lushoto	...	...	12
SOUTHERN HIGHLANDS PROVINCE	...	Mbeya	...	...	36
	...	Tukuyu	...	...	36
	...	Iringa	...	...	12
SOUTHERN PROVINCE	...	Lindi	...	...	36
	...	Songea	...	...	24
CENTRAL PROVINCE	...	Dodoma	...	...	36
	...	Singida	...	...	20
	...	Kondoa	10
NORTHERN PROVINCE	...	Arusha	24
	...	Moshi	36
	...	Kibongoto	50
	...	Leprosy patients	30

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29. Among other extra accommodation provided should be mentioned :—

MBEYA	...	New kitchens at European and native hospitals.
NJOMBE	...	Two-roomed ward for infectious diseases.
MIKINDANI	...	New kitchen.
SONGEA	...	Female ward (twelve beds).
TANGA	...	Kitchen and two semi-permanent wards (sixty beds).
MUHESA	...	New hospital (one hundred and ten beds).
LUTINDI	...	Mental hospital. New ward (twenty-five beds).
TABORA	...	Maternity block completed and opened.
KIGOMA	...	Laboratory and store and additions to office.
MWANZA	...	Extensive improvements to ancillary buildings in Native hospital.
KONDOA	...	New isolation ward.
DODOMA	...	Mental hospital. Two grade C blocks (ten and six beds), quarters for the Superintendent, and laundry.
ITIGI	...	Small hospital (six beds).
DAR ES SALAAM	...	New wing at Medical Laboratory. Extensive structural alterations including reconstruction of operating theatres and improvement of Asian and African female wards and additional class room in Medical school at Sewa Haji Hospital. Work proceeded as far as conditions permitted on the improvements at the European Hospital but it is difficult to carry out structural alterations involving much noise while a hospital remains so full.

30. *Mental hospitals.*—The number of patients treated at Dodoma, which is supervised by a psychiatrist, and Lutindi, a former German mission institution in Korogwe District, which for geographical reasons can only be visited by a medical officer once monthly and at which a greater proportion of chronic patients is accommodated, are given in the Appendix. Dr. Foley, who was absent from Dodoma for over five months, was enabled to visit a number of mental hospitals in England.

31. Electric convulsant treatment was tried on nine new admissions at Dodoma with the following results :—Complete cures, two ; much improved and discharged to care of friends, two ; some improvement, four ; improved and relapsed, one. The treatment was also given to twelve chronic patients with partial improvement. Of the new cases, one acute mania, two acute melancholia and five schizophrenia were cured or improved by the treatment. Treatment of a convulsive type could only be carried out on two occasions at Lutindi.

32. At Dodoma there were nine cases of cerebral syphilis including general paralysis among the new admissions. As facilities for performing Lange's gold curve were not available, the distinction between meningo-vascular and parenchymatous syphilis sometimes depended on the rapidity with which the cases responded to tryparsamide.

33. At both institutions occupational therapy is practised to the fullest possible extent, including cultivation, fuel collecting, mat making, basket work, carpentry, string making and tailoring, as well as the general work of the hospitals.

34. At Lutindi nine patients died from tuberculosis which indicates the need for closer medical supervision and isolation accommodation.

35. *Dental Treatment.*—The Senior Dental Surgeon was on leave from March 10th to May 8th during which time Mr. Tatchell was on duty at Dar es Salaam. He again represented the lack of adequate facilities for the dental treatment of the African population.

36. In connection with proposals for the expansion and better organization of dental services the appointment of an Assistant Director of Dental Services was recommended.

37. The Dental Surgeon, Tanga, visited the Southern Highlands and Central provinces during the months of August and September. In December Lushoto, Arusha and Moshi were visited.

38. The treatment carried out as measured by attendances of official patients and their families, Africans, members of the Forces and Aliens and Refugees is shown in the Appendix. The volume of work thus performed by two dental surgeons is exceedingly heavy, and the third appointment has not yet been filled. The revenue which accrued to Government from fees for prosthetic work at Dar es Salaam, the only station with a mechanic, was £1,253. Provision for a fourth dental appointment has been made in the Estimates for 1945.

39. *Radiography*.—X-ray plants have been maintained at the European and Sewa Haji hospitals and the Dental Surgery, Dar es Salaam; Tabora Native Hospital; Tanga, Mwanza, Moshi and Kibongoto Sanatorium. Three mobile sets and the full initial equipment, including personal protection devices, and dark room equipment are on order. See also paragraph 15.

40. *Physio-therapy*.—At the European Hospital, Dar es Salaam, massage and electrical treatments were given as follows (see also paragraph 15):—

Massage	...	...	...	521	Diathermy	...	...	...	491
Infra-red	...	...	...	395	High Frequency	...	...	...	26
Faradism	...	...	...	190					

41. *Maternity and Child Welfare*.—A total of 3,651 confinements was reported from maternity clinics. Government maintains clinics, apart from general hospitals, at Dar es Salaam, Tanga and Nzega; and grants for this work are made to many missions, notably for the clinics of the Church Missionary Society which maintains some seventy beds for maternity in the Central Province.

42. At Dar es Salaam a considerable increase of numbers was reported; confinements at the clinic numbered 387. A small investigation was started in the latter half of the year to ascertain whether venereal disease was a factor of importance in the high intra-uterine mortality. For this purpose women attending the clinic were examined by the Wasserman test. Starting with post-natal patients, the examinations extended to ante-natal cases. The women were not chosen because of suspicious signs of venereal disease but were examined as a routine. Out of 268 Wassermans performed, 20·8 per cent were positive.

43. In the Western Province the new maternity block at Tabora Native Hospital was completed and occupied. The Nzega clinic was conducted without European assistance from the 8th July to the 10th November by an African certified midwife trained in Uganda. The result was highly successful and the Native Authority has agreed to send one of the more promising midwife pupils to train in Uganda for her certificate. The maternity clinic at Karema on Lake Tanganyika, maintained by the White Fathers Mission, received a grant of £100 for a new ward; and additional accommodation has been provided by the same mission at Mwazyé in Ufipa. At six government clinics 1,110, and at four mission clinics 621 women were delivered. In the Lake Province we lost the services of the Goan lady doctor who was conducting the clinic at Bukoba hospital during 1943 but the work was carried on. In the district, the White Fathers at Kagondo, assisted with funds from the Native Authority, continued its maternity service; and a large volume

of work was also done at the Augustana Lutheran Hospital at Ndolage under Dr. Morris. At Kola Ndoto (Shinyanga) Miss Jorgensen maintained the Africa Inland Mission maternity wards, so long and successfully conducted by Dr. Maynard, who after a prodigious tour of service without a holiday, left for the United States.

44. Dr. Mack of the Mennonite Mission in Musoma interviewed 104 unselected Kuria women and found that they had had 388 live births, with 208 children living at the time of the interview. This method of investigation followed that of Dr. Young in Pemba in 1933 and shows very comparable results.

45. In the Southern Province eighty-three confinements were conducted by the Sisters of the Benedictine Mission at Peramiho in Songea.

46. In the Central Province an endeavour was made to encourage maternity work at Iambi Hospital in Singida, where Dr. Olson of the American Augustana Lutheran Mission has undertaken part-time duty. This mission maintains seventeen maternity beds at its main station, Kiomboi.

47. At Tanga five pupil midwives from Kilimanjaro and Usambara were under training; 240 births at the clinic were recorded.

48. *Medical Examination of Recruits.*—In addition to an increase of twelve per cent of in-patients treated the examination of 63,750 recruits for the combatant and labour forces and for productive and essential industry occupied much of the time of the medical staff.

49. Exact figures are not available but it probable that at least a quarter of a million medical examinations have been carried out during the first five years of war; the rejection rate is so high that at least two men must be medically examined for each one passed fit for military service, without taking into account the large number of men who are rejected on general grounds before undergoing examination by a medical practitioner. Records of these medical examinations provide a valuable field for statistical inquiry into the causes of unfitness of our adult male population, but circumstances have as yet only allowed of a preliminary examination of one small section of the records of men who actually came under examination by a medical officer. These figures show that of approximately 4,000 men examined one-third were unfit. Of the 2,700 passed as fit nearly half were fit for combatant duty. Of those unfit (1,370) some 424 were rejected for poor physique or heart conditions, 123 for eye conditions, 99 for hernia, and 92 were considered under weight or under age.

50. It is hoped that fuller examination of these valuable records, now in hand, will provide more detailed information as to the causes of the generally low out-put of work per head of the native population as a guide for measures directed to the improvement of the physique and general health of the people in the future. There is little doubt that irregular and insufficient feeding is a root cause of much of the poor physique which has been brought so clearly to light as a result of the war.

51. The Senior Medical Officer, Western Province (Dr. A. McKenzie), from which large numbers of recruits are sent to other areas, reports that the general physique of the labour has deteriorated, probably owing to the cream of the labour having been drafted to civil and military employment. He records the following rejection rates and adds that rejections among the

conscript labour for civil employment have been consistently higher than those for voluntary employment:—Volunteer 25·95 per cent; Conscript 40·60 per cent; Railway 29·42 per cent.

52. *Labour*.—In the Tanga Province the Senior Medical Officer (Dr. H. M. Shelley) is convinced that the cause of most of the poor physique observed in so many of the labourers is malnutrition, they frequently arrive emaciated and weak and come straight into hospital. Already dehydrated they cannot resist the strain on the body of such conditions as simple diarrhoea. An improvement in the nutrition and weight of labourers employed on rubber production was noted, and it was noted that the hospital admission rate increased considerably when palm oil was for a period unobtainable and beans and meat were scarce. The rate decreased when the ration was restored.

53. At Muhesa Rubber Production Hospital a marked decrease in the number of labourers repatriated on health grounds occurred and now only some of five to six per cent of hospital patients is recommended for repatriation which contrasts favourably with the former figures which varied between twenty per cent and fifty per cent. The new one hundred bed government hospital could not be completed by the end of the year owing to adverse weather conditions affecting the production of bricks.

54. In the Northern Province large numbers of conscript labourers mostly from Kondo and Singida districts had to be repatriated owing to poor physique and old age. The incidence of tropical ulcers was noteworthy and appeared to be associated with or precipitated by poor bodily health and nutrition coupled with manual work of a kind not heretofore normally performed.

55. The Senior Medical Officer of the Lake Province (Dr. W. A. Young) believes that much Ruanda and Urundi labour in very poor physical condition moved eastwards through Biharamulo either without medical examination at all or after rejection at medical examination, and that other labour from this part of the province was submitted to medical selection of insufficient rigour. The passage of part at least of the labour from this direction through Mwanza proved a continuous source of apprehension. The labour was suspected of including many carriers of the meningococcus. The health supervision of the various transit labour camps and the medical examination of the recruits in them have meant a considerable strain on the medical services entailing the assistance of both departmental and Native Authority personnel, and the employment of outside assistance provided by the Director of Man Power.

56. Dr. Charron, the Medical Specialist attached to the Labour Department, investigated recruiting conditions in the Lake Province with special reference to the recruitment of natives from Ruanda-Urundi. He advised on the construction of hospitals for diamond mines in the Shinyanga District, also in regard to sites for labour depôts which the newly formed and very welcome Sisal Growers' Association Labour Bureau propose to erect at Kilosa and other centres. Conditions under which labour was employed by the Tanganyika Railways on constructional works in the Eastern Province were investigated as a result of an exceptionally high incidence of tropical ulcer at certain camps in the Morogoro area.

57. Dr. Charron's book on the Welfare of Labour has been published since the end of the year.

58. While there are no grounds for congratulation on the conditions under which labour is generally recruited and maintained, largely attributable to war-time conditions, there is a gradually increasing realization on all sides of the need for improvement. Difficulties of obtaining staff, food and building materials have made it impossible for employers in many instances to do what their natural humanitarian desires suggest; and even the lowest incentive, the realization that it pays to look after labour, has been unable to overcome these difficulties. Nevertheless many industrial concerns have done what they could do to improve conditions and some maintain a high standard, and it is hoped that the termination of the war will see a great improvement in the care of labour, probably our most important, but at present largely wasted asset, by all employers and a better return from the labourer in the shape of more efficient work.

59. *Health of Prisoners.*—The health of prisoners was less satisfactory than in 1943 and the deterioration is probably attributable to overcrowding in certain prisons, notably Mwanza, Bukoba, Shinyanga and Iringa. A new prison was completed at Tukuyu. The daily average number of prisoners was 3,839·5, an increase of 327 over 1943. The daily average on the sick list was 120·1 (91·5 in 1943). The number admitted to hospital was 1,654 (1,346 in 1943) and deaths per 1,000 (average number of) prisoners were 15·89 (11·37 in 1943).

60. At Tabora thirty-seven cases of pellagra were reported and the curative effects of liver and nicotine acid were found to be equivalent. It was considered that the substitution of cowpeas (*vigna* sp.) for beans, *phaseolus vulgaris* may have been the cause.

61. *Nutrition and deficiency diseases.*—(See also paragraphs 50, 52-54, 59, 60 and 74).

62. In the Southern Province with the exception of the highlands of Songea District, the standard of nutrition is particularly poor, even at times approximating semi-starvation; the result of this has become apparent in the low output of energy displayed by the people in cultivating ground for their annual crops. The Senior Medical Officer (Dr. G. M. C. Powell) was particularly struck by a remark made to him when conversing with a young and extremely keen and observant European Agricultural Assistant, who said:—

“these poor people cannot be blamed if they cannot work like natives elsewhere because when I tried them out on piecework I found that after three hours work they were physically incapable of doing any more for the day, no matter how willing they were to continue. These people are terribly undermined by bilharzia and hookworm and perhaps other diseases I do not know about”.

63. The famine conditions that prevailed so widely in the Lake Province during 1943 were relieved in 1944. Nevertheless sequelae continued to be observed. Underfed petty thieves convicted of stealing food were admitted to Bukoba Prison and ten died from ulcerative colitis before their condition could be improved. In Biharamulo about one hundred tons of food were purchased in 1943 consisting of cassava flour, Congo millet and tapioca from Madagascar, and people were on short ration. This may account in some measure for the increased cases of diarrhoea and dysentery and have a bearing on the generally poor standard of the recruits for labour. The triple polishing

of rice continues in the mills of Mwanza, very little of whose product retains any embryo.

64. No famine cases were admitted to the government hospitals in the Central Province.

65. There was considerable improvement in the hospital shamba at Morogoro and the area under irrigation was expanded so that the production of spinach can continue all the year independent of rainfall. The vegetables produced in this shamba were distributed to Dar es Salaam, Dodoma and Tabora hospitals and Railway Camps and Chazi Leprosy Settlement. The local value of the produce was about Shs. 2,779.

66. At Dar es Salaam the Medical Officer of Health reports further improvement of the milk supplies; the number of prosecutions with convictions fell from twenty-three in 1943 to seven in 1944. The maximum penalty for offences in connection with the watering of milk was raised in 1943 from Shs. 100/- to Shs. 400/- and was imposed in each case. A higher price was allowed by the Economic Control Board for milk produced in hygienic dairies.

67. The long-awaited Food and Drugs Bill was reported on by a Select Committee of Legislative Council and has since become law.

68. *Laboratories: Dar es Salaam—Medical.*—Some disorganization of work arose from leave movements and the dislocation inseparable from constructional work on the extensions to the Central Laboratory. Nevertheless progress was made and although recruiting demands reduced the number of routine investigations required throughout the provinces, an actual increase in normal routine work was encountered in a number of directions. The staff position continued to be acute but the arrival of a laboratory superintendent in August 1944 was very welcome.

69. All provincial clinical laboratories continued to carry out useful work. Memoranda were issued in connection with the production and distribution of vaccine lymph and other biological products and their storage in the provinces; the training of African Laboratory Assistants was continued (see paragraph 83) and recommendations for the improvement of the departmental microscope position were submitted. New features contemplated or already in use are the regular issue of laboratory circulars for the purpose of co-ordinating the work of the provincial laboratories and of keeping their staffs informed on relevant matters. As before the war a pathologist now visits the Sewa Haji Hospital twice weekly for consultation and the undertaking of special investigations.

70. The production and issue of vaccine lymph reached record proportions owing to the continued demands both intra- and extra-territorially; approximately three and a half million doses were issued as compared with one and a half million in 1943.

71. Investigations on the Ide test were continued, some 1,500 specimens being tested and an average agreement of about ninety-four per cent with the Wasserman and Kahn tests was noted. The results are under publication.

72. *Chemical.*—Dr. Raymond, Government Analyst, proceeded on leave on 12th October 1944 and Mr. Calton assumed charge of the Laboratory and Dr. K. B. W. Jones took over the administrative duties of the Tanganyika Industrial Committee. There was an increase in the number of samples analysed from 2,847 in 1943 to 3,100.

73. Food and clinical analyses have remained fairly constant but show variation in detail. Drinks, medicines, forensic exhibits and agricultural and industrial products have all increased, the most significant increase being in the latter group. Poisoning cases included twenty arrow heads examined of which eighteen gave positive reactions for the common *Acocanthera* type of poison while two were negative. Of the other positive findings five involved arsenic, three bismuth and one datura alkaloid. A number of samples of soils were examined in connection with the stabilization of roads and a few clays have been examined for their suitability for brick-making and *pise de terre* building. Other increase are due to insecticides, phosphatic rocks, oils and miscellaneous samples.

74. Nutrition research has still been in abeyance but some analytical work has been done on the common varieties of fish sold on the native market and on fish liver oils.

75. *Medical Stores*.—The volume of work at the stores continued to increase. Stocks in general were very good but the lack of some particular items caused considerable inconvenience during certain periods in the year, notably syringes. Accommodation at the main stores for the larger supplies being carried is still inadequate, and stores have had to be scattered in various sheds, which adds to the difficulty of supervision. A European Accountant was appointed.

76. The Pharmaceutical Laboratory also had a very busy year as shown by the value of the issues compared with 1943 :—

1943	...	Shs. 65,875	43	...	1944	...	Shs. 81,798	17
Mr. R. S. Cayzer, Assistant Pharmacist, who was responsible for the establishment of the Pharmaceutical Laboratory left on transfer to Nigeria in August.								

77. The Totaquina factory maintained its output of powder and tablets the value being :—

				1943		1944	
				Shs.	Cts.	Shs.	Cts.
Totaquina	Powder	...	...	27,258	89	131,382	50
„	Tablets	...	...	112,863	26	108,707	57

78: *Training: Medical Auxiliaries*.—At Tukuyu there were nineteen pupils; seven of these sat the final examination, of whom four passed, while two failed and one was required to attend for further tuition as he was still young.

79. At the Mwanza School a two-year course of training is designed to fit men for work for charge of rural dispensaries. Nine students passed out, of whom six were for the Lake Province.

80. The yearly output of graduates has averaged nine and there are now about one hundred African Medical Auxiliaries in the Lake Province. The school is in course of becoming a Territorial Training Centre. Hitherto it has been customary for these men to belong to the tribe which they are to serve with the result that inferior candidates have often been accepted for training. It is now felt to be more important, especially as supervision after training is in many areas insufficient, to select men by their ability to qualify and preserve themselves as natural leaders in the villages, even though the essential supervision be largely lacking.

81. At Morogoro a second one-week intensive refresher course for Tribal dressers was held and dressers from estates were also invited. In all thirty dressers attended the course which was much appreciated.

82. At *Tanga* the Senior Medical Officer, Dr. Shelley, instituted a regular weekly clinic which is attended by members of the medical staff, including the Assistant Surgeons and Sub-Assistant Surgeons. This has proved a popular success and a useful aid in maintaining a philosophical as apart from "rule of thumb" professional outlook.

83. At the Central Medical Laboratory the courses of training have been revised. The extent to which they will be successful must depend on the staff position but they have been designed to function in the first year with existing staff. With the present incomplete and exiguous staff frequent unpredictable but urgent interruptions interfere with continuity of teaching and training is conducted with great difficulty. The alterations and extensions to the buildings provide improved facilities for this work and a full academic course for laboratory assistants to replace the previous less formal apprenticeship system, a modified course for microscopists and the usual courses for second and third year hospital assistants have been planned. A revised and enlarged edition of Dr. Burke-Gaffney's "Outline of Clinical Pathology" is in preparation for the press.

84. At the Chemical Laboratory one student completed the course for African Chemical Assistants, of whom there are now four fully trained men on duty.

85. *Training of African Women Nurses.*—At *Tanga* the appointment of a Sister Tutor was welcomed. As the projected hostel and school buildings were not available the Sister Tutor commenced the systematic instruction of male hospital orderlies, ayahs, and assistant nurses with valuable results. At the Maternity Clinic very satisfactory progress was made during the year and a continuation was made in the training of literate African women as midwives. There are at present five such trainees sent by the Chagga and Sambia Native Authorities.

86. The subsidized nurses training school of the Universities Mission at Magila in *Tanga* District has eight pupils in training. Two passed the Government Examination. At Lulindi U.M.C.A. Hospital in Masasi District, the Government subsidized school for training of African girls in nursing continues to produce good results in limited numbers.

87. At the Church Missionary Societies Hospital at Mvumi, Dodoma District, there were seven female pupils in general nursing, of whom two proved unsuitable and three passed the first year's examination. There was also one pupil in midwifery. Lectures and demonstrations were given to eleven male nurses in addition.

COMMUNICABLE DISEASES—BLOOD INOCULATION GROUP I

88. *Malaria.*—Reported cases of malaria numbered double those for 1943, notable increases being recorded from Mwanza, Bukoba, Musoma and Biharamulo. In Dar es Salaam European Hospital 369 subtertian and 471 clinical cases were treated, a smaller number than in 1943.

89. *Control measures in Dar es Salaam.*—76,847 buildings were searched in eighteen different areas; in these, an average of 1.68 anopheline mosquitoes were caught. Of these, 28,233 females were dissected, yielding

663 or 2.35 per cent infections. The general infection rate for anophelines varied between 1.47 in September and 3.61 in June; for six months it was under 2.0. *A. gambiae* females (58,011) showed an infection rate of 3.31, and *A. funestus* (58,787) a rate of 1.29; the number of females caught and dissected was similar for each species, but *gambiae* males caught (8,547) were more than double the *funestus* males (4,003). The infection rate for *A. gambiae* varied between 1.95 in April and 4.95 in July; the infection rate for *A. funestus* varied between 0.69 in April and 2.04 in January.

90. Other species caught were *A. coustani* (9); *A. gambiae melas* (3); *A. marshalli* (3); *A. nili* (2); *albino* (2).

91. Of 3,870 persons from whom routine blood slides were examined (excluding special examinations) from eight areas, 43.28 per cent showed a sexual parasites (72.78 per cent *P. falciparum*) and 3.44 showed gametocytes (57 per cent *P. falc.* 38 per cent *P. mal.*, 3 per cent *P. viv.*, 0.75 per cent *P. ovale*).

92. The British East African Meteorological Service kindly supplied the following information:—

Monthly Mean Relative Humidity

Lowest: Midnight 86 in February; 14.30 hours 65 in July.

Highest: 99 in June; 96 or over for eight months; 80 in April; 73 or over for seven months.

Rainfall 47.67 inches, 14.27 of which fell in April; the lowest fall was 1.19 inches in August. Rain fell on 153 days, the heaviest fall being 2.75 inches on 17th November.

Temperature: lowest minimum 62° in June; highest maximum 90.4° in March.

93. At Tabora Italian Internment Camp the incidence of malaria was the lowest recorded since its inauguration.

94. A survey was made in Arusha Township by Dr. R. Mackay and estimates for major and minor schemes of control were prepared. Work on the minor scheme was commenced towards the end of the year. An extension of control work outside Tengeru Polish Camp was undertaken. The cleaning and re-laying of the sub-soil drainage system in the Njoro Chini area of Moshi was commenced late in the year but could not be completed owing to shortage of labour. A preliminary survey of mosquito breeding places was carried out at Mbulu with a view to control measures, chiefly needed in the small river running through the station boundaries.

95. At Tanga aerodrome nine miles of main drainage were completed.

96. Predatory fish, as mentioned in 1943 Report, have proved extremely successful and requests from many parts of the Territory for the supply of fish have been met.

97. *Yellow Fever: Aedes Control.*—In Dar es Salaam 273,517 buildings were searched yielding a mosquito larva index (all kinds) of 0.98 and a pupae index of 0.088; the aedes index was 0.52 for the year, the highest monthly index being 1.01 in April. The most numerous breeding places were car and engine parts and holes in trees. 263,495 miscellaneous water holding articles were collected of which 213,165 were coconut shells. Mosquito larvae were found in dhows on 35 occasions.

98. In the Tanga area anti-aedes measures were carried out at Tanga and to a less extent at Korogwe, Pangani, Moa, Pongwe, Muhesa, Mnyusi and Tangata. The "Aedes Index" can be said to be satisfactory only at Tanga itself.

99. Measures for intensified control at Moshi and Musoma, as airports of first landing from the endemic area, have been instituted and strict control of passenger traffic from the Lake Victoria steamers was maintained at Mwanza.

100. *Sleeping Sickness*.—A considerable increase of cases of human trypanosomiasis was reported, 825 cases with 232 deaths, as against 439 cases with 216 deaths in 1943. The Babati outbreak in the Northern Province which commenced in October 1943, accounted for 215 cases with 29 deaths; but only ten new cases were reported in November and December and control appears to have been established.

101. In the Western Province there have been increases in the Kibondo, Kasulu and Kahama areas, mainly at Nyavyumbu, Kakonko and Msasa.

102. In the Eastern Province 43 cases were notified (twenty in 1943), the majority from the Luhembero area of the Mahenge District, where active control measures have been undertaken with conspicuous success. The occurrence in the latter half of the year of three cases in Morogoro District caused some anxiety, cases which from their history were probably contracted outside the district. One case occurred in an Italian mica miner almost certainly infected near Morogoro. The two native cases were probably infected in Uha, but one had been ill for two months before diagnosis and may well have infected local flies at the estate where he was employed.

103. In the Lake and Southern Highlands provinces there was no change; but a case believed to have been infected in the lake shore area of Biharamulo District and transferred to Bukoba may prove to be a *gambiense* infection with which dogs which have never left Bukoba Township are believed to have been infected, and which was prevalent in human beings in that area in the first decade of this century.

104. A comparative small increase was noted in the Southern and Central provinces. Of the nine cases in the Central Province one of the Kondoa cases had recently been to Arusha and may have been infected in the Babati area.

105. Resettlement of the people in the Mbugwe-Magugu area of Babati was carried out and a new dispensary opened at Magugu; and resettlement measures continued under the energetic control of Mr. A. T. Culwick in the Mahenge District, which provides a serious source of future danger to the Central Railway and employment areas, if infection of travelling labour is not checked on that important route.

106. The acute shortage of syringes made it extremely difficult to maintain regular treatment of cases at the dispensaries.

107. *Tick-borne Relapsing Fever*.—Cases reported numbered 4,634 with thirty-eight deaths (3,774 with twenty-five deaths in 1943). The steady increase of this disease in the Lake Province continued (291 cases with three deaths) especially at Musoma, Biharamulo and Mwanza, but it does not seem to have been observed at Bukoba where it was formerly present. Most of the Biharamulo cases came from the recruit camps and from the police barracks which in the course of the year were replaced by buildings having

cement-concrete floors. The increased incidence may well be associated with the delapidation of buildings during war-time.

108. At Kilosa twenty-five cases were treated. A number of these were labourers from Kigoma where a privately owned labour camp was suspected as the source of infection.

109. It is to be hoped that circumstances will soon allow of the execution of the field research into control measures recommended by the East African Medical Research Committee and projected by the London School of Hygiene and Tropical Medicine, at which considerable anti-*ornithodoros* laboratory work has been done. This serious and fatal disease is of considerable economic importance to East Africa and it is safe to assume that only a small fraction of the cases which occur are diagnosed; while the question of efficient treatment has been causing anxiety to several experienced clinicians who report that the type of disease now occurring does not always show the expected response to recognized methods of treatment.

110. *Plague*.—No case of plague has been reported since 1941 but the stage is set in many urban trading centres for another outbreak. The Lake Province in which the most serious outbreak since the British occupation occurred in 1937 sounds the warning and infestation of the Bukoba coffee warehouses necessitated active anti-rodent measures. Dr. Young writes:—"The general level of buildings in all the townships is very low.....Mwanza with its ginneries and rice mills and stores and ribbon development stretching out towards the country seems particularly liable to a return of plague before very long". These remarks apply to other towns where war-time shortage of cement and iron has prevented, or been the excuse for neglect, of necessary repairs and reconstruction in many danger spots; and we must not lose sight of the fact that plague is endemic in East Africa, particularly in the Lake Victoria basin; the wild rodents in which it appears to exist enzootically in North-Central Tanganyika only await the right combination of climatic and local conditions to hand on their infection through urban-dwelling and domestic rodents to the human population, with the inevitable dislocation and economic loss which an outbreak of plague brings to the community.

INTESTINAL AND EXCREMENTAL GROUP II

111. These diseases, attributable to faulty nutrition and sanitation, showed a regrettable increase.

112. *Dysentery*.—A total of 6,289 cases with 231 deaths were reported; 962 were differentiated as of amoebic origin, and 1,656 as bacillary. The outbreak ascribed to introduction from the Congo towards the end of 1943 continued in the Biharamulo District where fifty-two cases with eleven deaths were treated at the hospital and 1,521 at eleven dispensaries in the district. At Musoma, early in the year, bacillary dysentery caused a number of deaths among the very young and the very old.

113. *Enteric Fever*.—The occurrence of an increased incidence of this disease in Dar es Salaam has been referred to in paragraph 17. The total number of cases for the Territory was 417 with forty deaths (117 with twenty-three deaths in 1943). The incidence of the enteric group at Morogoro (220

cases with seventeen deaths) was nearly ten times that in 1943. It is possible that the increasing facilities for serological tests at the provincial laboratories led to the diagnosis of a larger number of cases.

114. *Ankylostomiasis* showed a slight increase only, but a survey of 460 African school children at Tanga showed infestation in twenty-three per cent and ‘anaemia’ in forty per cent. *Bilharzia* was shown in thirteen per cent.

Three cases of Sparganum disease (*diphyllbothrium* sp.) were treated at Musoma by excision of as many parasites and subsequent arsenical injections. So far as the writer is aware this is the first record of this condition since the British occupation.

SURFACE INOCULATION AND DROPLET INFECTION GROUP III

115. *Cerebro-spinal meningitis*.—A lower incidence but with a higher case mortality is again recorded, less than half the cases and deaths reported in 1943. The relative provincial incidence has remained remarkably steady for the past three years. As the trend of this disease is likely to be studied in the future the provincial figures are given below for record :—

Province	1942			Case Mortality Rate	1943			Case Mortality Rate	1944			Case Mortality Rate			
	Cases	Deaths			Cases	Deaths			Cases	Deaths					
Central	...	621	63	...	—	...	370	61	...	—	...	243	35	...	—
Tanga	...	27	5	...	—	...	37	8	...	—	...	45	20	...	—
Northern	...	267	31	...	—	...	436	26	...	—	...	59	4	...	—
Eastern	...	828	195	...	—	...	660	110	...	—	...	203	49	...	—
Southern	...	683	213	...	31.1	...	1,118	146	...	13.0	...	424	49	...	11.5
S.H.P.	...	22	5	...	—	...	121	46	...	—	...	16	11	...	—
Lake	...	6,660	819	...	12.2	...	3,779	586	...	15.5	...	1,627	351	...	21.5
Western	...	2,579	388	...	15.0	...	2,279	412	...	18.0	...	846	126	...	14.9
Total	...	11,687	1,719	...	14.7	...	8,800	1,395	...	15.8	...	3,463	645	...	18.6

116. In the Lake Province the disease occurred mainly in the southern half of the province; Musoma and Bukoba districts had very little. Biharamulo recorded seventy-seven cases with fifteen deaths at its hospital. Dr. Wirtz at Geita treated twenty-four with three deaths in the earlier part of the year. On Speke Gulf, Nassa remained a persistent focus and generally through Sukumaland there were scattered areas of moderate endemicity, with the incidence as in former years rising during the dry months of September and October. A notable focus was Mwadui in Shinyanga. The large influx of peripatetic labour coming mainly from Ruanda-Urundi to the diamond fields there were suspected of including many chronic carriers. For part of the year in certain areas it was still considered justifiable to administer sulphapyridine (on the system described by Young and others in the *East African Medical Journal*, August and September 1944) to all new entrants to recruit camps in order to minimize the danger of spread through the introduction of carriers into these inflammable communities. In the Southern Highlands Province the use of prophylactic sulphapyridine undoubtedly reduced the incidence in the three institutions in which cases occurred.

117. In Tanga the movement of labour was the main factor in the spread of this disease and cases occurred sporadically throughout the year.

118. In the Western Province there were fewer cases from the Nzega and Nyonga areas. The epidemic in South Tabora area died down at the beginning of the year, and its southern spread appears to have been halted.

119. *Smallpox*.—Variola-varioid disease gave considerable concern, a total of 5,735 cases with thirty-eight deaths having been reported, compared with 201 cases with two deaths in 1943. It will be remembered that infection was introduced to the Territory across our northern border in 1943 but was of non-fatal type. With the exception of a small outbreak with unusual features on the southern shore of Lake Victoria the disease was again of non-fatal type and was frequently reported as alastrim.

120. In the Western Province the outbreak reported in 1943 ended in the first months of 1944; forty-one cases had been reported by the end of 1943 and 288 in the first four months of 1944. A second wave appeared in September; there were no deaths and the outbreak did not spread within the Province beyond the borders of eastern Nzega. Sporadic cases occurred in Kasulu and Kigoma.

121. In the Tanga Province infection was introduced by labour returning to the Usambaras from the plains and by African soldiers coming on leave. 546 cases with one death were reported, and the disease was stated to have been mild.

122. In the Southern Highlands a vaccination campaign on our side of the Rhodesian border confined the disease to small and quickly-controlled pockets.

123. In the Eastern Province 46 cases (none fatal) occurred in Dar es Salaam. In Morogoro District 860 cases of a mild type with one certain and twelve rumoured but unconfirmed deaths were reported.

124. Some 231,000 vaccinations were carried out in the Central Province where 222 cases with eight deaths in infants and old people occurred, chiefly in Singida and Kondoa districts.

125. But infection which constituted an outstanding feature of the year occurred in the Lake Province and, though there was little mortality, great embarrassment was caused; and because of the appearance in a single small area of a focus of virulent and fatal disease still under investigation at the end of the year, while the remainder was of non-fatal type though widely dispersed, it has been thought necessary to record the sequence of events more fully than usual.

126. A mild form of the disease, variously assumed to have been imported over the Uganda border or to have been introduced by soldiers on leave or by a woman returning to Maruku from Nairobi, was occurring round Bukoba in April; at Tinde in the south of Shinyanga District a small focus which did not expand had appeared, presumed to be an extension from a larger outbreak in the Western Province near Nzega; further foci had been reported from Geita Mine in the extreme west of Mwanza, and from Nyanguge on Speke Gulf some thirty miles east of Mwanza; these latter cases, though their character were those of smallpox, showed amazing mildness; they started with a case who had come from the Nzega area. This outbreak, as a result of the need for curtailing the vaccination campaign, spread eastwards to northern Maswa and westwards to Kwimba. A further outbreak occurred in the southern part of the Maswa District but this was thought to have originated from the Western Province by way of the cattle route to Arusha.

127. A further introduction to Bukoba District is thought to have occurred in March with a cattle driver from Biharamulo who camped at Kabirizi in western Kianja. This outbreak linked up with the first one and spread southwards also down the Kamachumu-Karambi road.

128. From January to June the monthly numbers of Bukoba cases were 28, 36, 20, 15, 3 and nil, without deaths. In Biharamulo 65 of the 71 cases occurred in the lake shore area. But in July a very sharp outbreak was reported by Bukoba, 461 cases with six deaths having suddenly occurred at Nyabionza on the Ruanda border of Karagwe in the extreme west and on the labour route to Uganda.

129. The outbreak at Geita Mine was arrested in May by the Mine's medical officer after only six cases, and eighteen further cases occurred from July to the end of the year, only four of which were company employees; but in October the Buchosa, Chiefdom of Uzinza (an inaccessible area between Geita and Mwanza) became affected. As the year closed it was learned that eighteen deaths from the disease had occurred among these people in December. Elsewhere the low mortality was a striking feature; eleven deaths were recorded in Bukoba District and two (infants) in south Maswa.

130. The island of Ukerewe also experienced an outbreak; and fifty-eight cases occurred in Mwanza Town, with sixteen at the recruit dépôt.

131. Great credit is due to Dr. Young and his small provincial staff for the way in which these widely scattered outbreaks were dealt with under circumstances of the greatest difficulty; the scientific aspect of the occurrence of this fatal type of infection in the midst of an outbreak of mild or non-fatal disease has most serious implications and will no doubt be the subject of further publication; it was most unfortunate that no pathologist was available to investigate the strain of virus on the spot.

132. *Tuberculosis*.—In the whole Territory 2082 pulmonary and 243 non-pulmonary cases were reported, with 171 and thirteen deaths respectively. Specific proposals for the expansion of the tuberculosis service with a view to securing early diagnosis and treatment and minimizing family infections have been included among post-war development plans. Meanwhile, active measures are confined to Kilimanjaro where Dr. H. N. Davies maintains through his sanatorium and district dispensaries the only specialist service of its kind known to be operating in East Africa; and in Dar es Salaam, where Dr. G. A. Wilson, Medical Officer of Health, undertakes what specialist treatment is possible with the limited facilities available at the Infectious Diseases Hospital.

133. Dr. Wilson believes a steady increase of tuberculosis and a change of type to be occurring in the Asian and African populations of Dar es Salaam; pulmonary lesions appear to be more extensive and severe than hitherto and many cases admitted in 1944 showed abrupt onset with rapidly progressing disease approximating more to the young adult type than to the fibro-caseous; and he attributes this to over-crowding combined with lack of resistance resulting from an inadequate standard of living. At Dar es Salaam, ninety-one cases, of whom thirty-seven died, were under treatment compared with sixty-five with seventeen deaths in 1943. Five advanced Asian cases were under hospital treatment, of whom four died.

134. At Kibongoto there are seventy-five beds for tuberculous patients but the daily average of in-patients was 140, and it was necessary to erect temporary fair-weather sleeping accommodation to provide for the increase of 185 patients admitted as compared with 1943. During 1944 patients were accepted more freely from other parts of the Territory; many of these were advanced cases and this has an adverse effect on the morale of other patients,

since they upset the balance between the isolation of advanced cases and the treatment of earlier cases which it is the endeavour to maintain ; this becomes obvious to patients and affects the reputation of the hospital among the dispensary clientele who become less willing to enter the hospital.

135. The tuberculosis work done at Kibongoto may be summarized as follows (figures in brackets refer to 1943) :—

	Beds			Remaining 31/12/1943			Admitted	Discharged on Reco- mmendation			Left of own accord	Died in hospital			Rema- ining 31/12/44
African	...	42	27	...	104	...	372	...	243	...	63	...	49	...	121
Asian	...	4	2	...	—	...	(355)	...	(265)	...	14 ab- seconded (9)	...	(25)	...	(average stay 3½ months)

Of the deaths, fifteen occurred within three weeks of admission, and forty-six were in cases of bi-lateral lung disease with or without additional tuberculous conditions. Contact was maintained with 1,573 cases. Nineteen Tanganyika askaris on their way home on discharge from the army were repatriated, of whom only five were non-infectious. Only three such men have been prepared to remain for treatment, two of whom were local tribesmen (Chagga). Twenty-six patients were discharged without improvement ; forty-eight were improved but still infectious ; forty-five per cent were classified as co-operative and twenty-eight per cent as non-co-operative.

Surgical treatment :—

Pneumothorax inductions	...	...	...	...	...	...	142	
" refills	...	...	...	...	...	...	10,282	in 108 patients
Phrenicectomy	...	...	...	...	...	...	85	
" followed by pneumo-peritoneum	...	...	...	...	...	...	77	in 77 patients
" followed by pneumo-peritoneum refills	...	...	...	...	...	...	272	
Thorascopy	...	...	...	...	...	...	8	
" with adhesion cutting	...	...	...	...	...	...	11	
Oleo-thorax, fillings	...	...	...	...	...	...	63	in 11 patients
Effusions ; replacements by air, or pleural washings	...	...	...	...	...	...	109	in 16 patients.

136. Dr. Davies has analysed his records of 784 pulmonary cases treated by pneumothorax and/or ancillary measures during the period 1933-1944. The results may be briefly summarized as follows :—

Under treatment 1933/44	...	784	
Alive in 1944	...	414	
Died	...	318	(5 from causes other than tuberculosis)
Result not known	...	52	

Of the 414 survivors in 1944, 314 were admitted 1940/44, and 100 between 1933 and 1939.

Of 600 pulmonary plus-two and plus-three cases in the same period, 253 were alive in 1944 ; 307 had died (three from other causes) ; and in forty the result was not known. Of the 253 survivors in 1944, 191 were admitted between 1940 and 1944.

137. *Leprosy*.—This chronic and but slowly disabling infection continues to arouse a disproportionate measure of public sympathy, partly from the fact that its later manifestations are more obvious to the lay eye than the more insidious latent but dangerous and fatal infection spread by the closely related organism, the tubercle bacillus, and partly from the mediaeval fear inspired by mere mention of the disease with its doubtful biblical associations, and especially by the use of the objectionable and obsolete word "leper" still regrettably applied to the unfortunate sufferers. Why such patients continue

to be singled out for such description by doctors and others who should be more careful when the appellation conveys a definite social stigma remains beyond the writer's comprehension.

138. It is unfortunately the fact that as soon as anyone interested in leprosy, whether doctor or layman, sets out to undertake its treatment he or she will be flooded with patients, the majority of whom are beyond hope of cure even by the early, energetic, thorough and prolonged treatment under skilled medical observation which our present knowledge shows to be necessary. When circumstances do not allow of such treatment, and there are few African territories where they do so, or where discontinuation of treatment begun becomes necessary, such unfortunate patients are liable to become a care of the State whose funds may be often more advantageously employed in preventing or curing conditions more seriously affecting the public health.

139. At the present time when money is more readily available than medical men the East African governments have agreed to the appointment of a leprosy specialist for Kenya, Tanganyika and Uganda to be based in Tanganyika, but no appointment had been made by the end of the year; and the vast area he will be required to cover in an advisory capacity will prevent him from personally doing more than supervise a certain amount of systematic continuous treatment in any one settlement. He will, of course, gradually spread a better knowledge of diagnosis, modern treatment and the successful administration of leprosy colonies among those directly concerned.

140. Leprosy has never in the writer's recollection figured prominently in reports from the Lake, Western, Northern or Tanga provinces, and there is no doubt that some common economic, ecological or other cause will be found to explain its heavier incidence in certain areas, notably the southern part of Tanganyika, when the opportunity for the collection of more detailed information, that is field research, occurs.

141. We have to record with deep regret the death of Miss Edith Shelley, Nursing Sister of the Universities' Mission in the Southern Province, who had devoted many years to leprosy work and who was an enthusiastic advocate of the policy of bringing treatment to the people's doors; a great loss to the area.

142. Dr. Cyril Wallace of the Church Missionary Society, who had made a special study of leprosy at the Makutupora settlement for so many years took up an appointment under Government and will assume medical charge of Chazi settlement in Morogoro.

143. The Makete settlement near Tukuyu in the Southern Highlands Province continues to flourish under the enthusiastic guidance of Mr. W. Lambert who was appointed by the British Empire Leprosy Relief Association. The District Commissioner, who with the Native Authority and the Medical Officer is actively associated in the management of the settlement, reports that cultivation has notably improved and there are no idle hands. The school under a licensed teacher has been recognized by the education authorities, and handicrafts and farming are taught; a class in English is held twice a week for adults.

144. Thirty houses for ex-soldier patients were built and gardens cultivated round them by the patients; a substantial brick laboratory was also built. Gardens for widows and cripples were also cultivated by patients and 130 new patients' houses built; these have a life of three years. Hardwood, hynocarpus

and oil-palms (*Elaeis guineensis*) have been planted and a wide range of food crops is cultivated in this fertile and well-watered settlement. There are 775 head of cattle besides pigs and chickens.

145. Patients under treatment numbered 1,068 of whom 12·5 per cent were open cases; sixty-four were discharged (323 during the years 1941-1944) and two died. New cases during the four years numbered fourteen. Microscopic examinations numbered 2,758.

146. In the Southern Province where present knowledge suggests the heaviest incidence of the disease to lie, 266 new in-patients and 308 new out-patients were treated at four settlements.

146. In the Tanga Province 120 in-patients and six out-patients were reported for three settlements maintained by missions.

148. In the Central Province there were 180 patients and five children under observation at Makutupora, and 120 at Mkalama. In the camp at Dodoma for prisoners suffering from leprosy there were twelve inmates.

149. In the Lake Province only fifty-one new cases were reported from government hospitals. Settlements are maintained at Shinyanga (Africa Inland Mission) and near Bukoba (White Fathers).

150. *Anthrax*.—From the Eastern, Central, Southern Highlands, Lake and Northern provinces 104 cases with eighteen deaths were reported. Fifteen of these with one death occurred among workers in the hide trade in Dar es Salaam. In the Western Province forty-seven cases with three deaths were reported as against eighty-seven in 1943; all from the Ndonu, Usoke and Igalula areas.

151. *Venereal Diseases*.—The prevalence of these conditions, which has been more forcefully brought to notice as a result of cases occurring in the Army, led to the enactment of regulations for compulsory treatment (see Appendix); and some attempt was made to deal with the difficult problem of prostitutes found to be infected.

152. Of 207 prostitutes in the town of Dodoma twenty-four showed clinical signs of syphilis, and urethral smears taken from ninety-three of them were positive for gonorrhoea in forty-two cases on a single examination. A Chief in the district issued an order under the Native Authority Ordinance making notification and treatment of venereal disease obligatory in an area where a missionary doctor was able to give treatment.

153. In the Lake Province where Dr. Young's specialist experience stimulated interest in this group, Bukoba reported large increases both of genital sores and gonorrhoea. Here occurred nearly half (1864) the out-patient gonorrhoea cases in the province (4094); 595 African patients were admitted to the government hospital for this disease. From this station come every year the great majority of surgical complications arising from this disease; external urethrotomies and supra-pubic drainage were performed in over a hundred cases. Kahn tests at the hospital laboratory numbered 398 of which twenty-six per cent were positive. It is also noteworthy that many of the women of this district make a practice of going for limited periods to the large towns throughout East Africa for the practice of prostitution, with the proceeds of which they later return to a more settled life at home.

154. An early treatment centre was opened at Bukoba hospital, and at nearby Nyakato where there is a military training school the military medical practitioner administered sulphathiazole not only to the soldiers but to a large woman out-patient clientele.

155. At Mwanza Dr. Young conducted a clinic through which he selected early syphilitics for intensive multiple mapharside injection as in-patients; but efforts to follow up discharged patients by serological examination proved disappointingly vain. The serological states at the different school ages were investigated in the Bwiru Government and the Native Authority schools. At the provincial laboratory at Mwanza 1,304 Kahn tests were performed of which 532 were positive (forty per cent).

Nairobi (on leave)

10th September 1945

R. R. SCOTT,

Director of Medical Services

APPENDIX

(1) GENERAL DISEASES.—See Table A.

(2) COMMUNICABLE DISEASES.

Recoded cases of infectious and parasitic diseases numbered 323,285 (36.19 per cent of all cases) and accounted for 44 per cent of the deaths in government institutions. They include :—

<i>Blood Inoculation Group:</i>				Cases	Deaths	
Malaria	...	...	...	105,217	172	See paragraphs 88-96
Blackwater fever	...	...	...	103	21	
Relapsing fever	...	...	...	4,634	38	„ „ 107-109
Trypanosomiasis	...	...	...	825	232	„ „ 100-106
<i>Intestinal and Excremental Group:</i>						
Dysentery	...	...	...	6,289	231	(962 Amoebic, 1,656 Bacillary. See paragraph 112)
Enteric fever	...	...	...	417	40	See paragraph 113
Paratyphoid fever	...	...	...	27	2	
Ankylostomiasis	...	...	...	23,719	13	„ „ 114
Schistosomiasis	...	...	...	9,199	13	„ „ 114
<i>Surface Inoculation and Droplet Infection Group:</i>						
Cerebro-spinal meningitis	...	...	...	3,463	645	See paragraphs 115-118
Tuberculosis :						
Pulmonary	...	...	...	2,082	171	„ „ 132-136
Non-pulmonary	...	...	...	2,431	13	
Smallpox	...	...	...	5,735	38	„ „ 119-131
Yaws	...	...	...	71,891	7	(Diagnosis liable to be confused with Syphilis)
Syphilis (primary 14,902)	...	...	...	37,281	20	See paragraphs 151-155
(secondary 9,325)						
Gonorrhoea	...	...	...	17,136	3	„ „ 151-155

(3) STATISTICAL INFORMATION.

(a) Estimated population (no census taken since 1931) :—

European 6,040 : Asian 46,558 : African 5,437,069.

Evacuees and Refugees in the Territory on 31st December 1944, not included above :

Italians	2,941
Poles	6,618
Greeks	513

Total	...	10,072
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(b) Total births and birth rates : Not known.

(c) Total deaths and death rates : Not known.

(d) Infantile mortality : Not known :

(4) SPECIAL SUMMARIES.

(a) New Legislation :—

(i) The Defence (Amendment : Compulsory Treatment of Venereal Diseases) Regulations, 1944—See Government No. 179 of 1944.

(ii) The Venereal Diseases (Detention and Treatment) Rules, 1944—See Government Notice No. 245 of 1944.

(iii) Declaration of Certain Infectious Diseases (Acute gonorrhoea, primary and secondary syphilis and soft chancre)—See Government Notice No. 250 of 1944.

(b) Maternity and Child Welfare : Total confinements in clinics 3,651.

(c) (i) Work done at Hospitals and Dispensaries :—

General and Infectious Diseases Hospitals and Dispensaries

Government Hospitals and Dispensaries (62); Tribal Dispensaries (341)

	In-patients	Out-patients	Totals*	Output	
1940	38,791	814,036	852,827	47	943,743
1941	45,127	863,432	908,559	48	1,112,640
1942	51,852	870,838	922,690	49	1,195,890
1943	56,317	857,352	913,669	47	1,145,516
1944	63,152	857,953	921,105	47	1,311,316

Under "Out-patients" first attendance only is recorded.

Members of the Forces admitted to Government hospitals : Total 3,199.

Mental Hospitals

Patients :	Dodoma	Lutindi	Total
Remaining from 1943	156	126	282
Admitted	59	42	101
Discharged	74	6	80
Died	9	35	44
Escaped	2	—	2
Remaining on 31st December 1944	130	127	257

Patients remaining in Prisons on 31st December 1944 :

Under observation	—	—	6
Certified	—	—	2
Criminal Lunatic	—	—	12

Dental Patients Treated

	Officials	Africans	H.M. Forces	Enemy Aliens and Refugees	Total
Dar es Salaam, by Senior Dental Surgeon	2,366	1,153	335	44	3,898
Dar es Salaam, by Dental Surgeon	336	275	75	19	705
Tanga, by Dental Surgeon	595	603	151	32	1,381
On safari, by Dental Surgeon	218	39	12	15	284
Total	3,515	2,070	573	110	6,268

(ii) There are no separate venereal disease clinics : the number of cases of venereal diseases treated is given under "Communicable Diseases" (See section (2) of this Appendix).

(iii) For Mental hospitals see paragraph 30 and above (4) (c) (i).

(iv) Laboratories :—

(1) Pathological section includes Central Laboratory and Sewa Haji clinical laboratory, Dar es Salaam, and branch laboratories at the Mpwapwa Lymph Institute and Provincial laboratories at Moshi, Tanga, Tabora, Mwanza, Mbeya and Lindi. Specimens examined 118,000. Decrease of 3,000.

(2) Vaccine Lymph Institute, Mpwapwa.—Calves vaccinated, 181. Total pulp in grammes 6,751 : average yield per calf, 37.3 grammes as compared with 4,259 grammes in 1943 with a yield of 33.8 grammes per calf.

(3) Chemical Unit.—3,100 samples were examined. See paragraphs 72-74.

(d) Publications :—

The following publication was issued during the year :—

Medical Pamphlet No. 40 "Sleeping Sickness in Tanganyika replacing Medical Pamphlet No. 8 of 1933.

*This figure includes patients seen at some medical units (other than tribal dispensaries) not in charge of medical practitioners and which do not render classified returns of diseases. It is therefore higher than the total shown in Table A.

TABLE A.—DISEASES AND DEATHS BY GROUPS (GOVERNMENT INSTITUTIONS ONLY), 1944. CLASSIFIED IN ACCORDANCE WITH MANUAL OF INTERNATIONAL LIST OF CAUSES OF DEATH, 1931 EDITION)

	Cases		Deaths		Percentage of group to total cases			Percentage of deaths to total deaths		
	1943	1944	1943	1944	1942	1943	1944	1942	1943	1944
I.—Infectious and Parasitic Diseases:										
(a) Blood Inoculation Group	93,318	110,775	237	290	10.30	10.51	12.40	8.90	8.86	10.18
(b) Intestinal and Excremental Group ...	66,177	62,136	356	439	7.76	7.46	6.96	9.40	13.30	15.41
(c) Surface Inoculation and Droplet Infection Group	158,163	141,824	562	469	17.56	17.82	15.88	25.99	21.00	16.46
(d) Other infectious and Protozoal Diseases	5,445	8,550	25	47	0.34	0.61	0.95	1.37	0.93	1.65
Total	323,103	323,285	1,180	1,245	35.96	36.40	36.19	45.66	44.09	43.76
II.—Cancer and other Tumours	587	709	38	50	0.08	0.06	0.08	2.34	1.42	1.76
III.—Rheumatism, Diseases of Nutrition and of Endocrine Glands and other General Diseases	12,836	11,574	15	28	1.41	1.45	1.32	0.58	0.56	0.99
IV.—Diseases of the Blood and Blood-forming Organs	7,261	5,956	39	38	0.83	0.82	0.67	1.40	1.46	1.33
V.—Chronic Poisoning	43	31	2	—	0.01	0.01	0.00	0.04	0.07	0.00
VI.—Diseases of the Nervous and Sense Organs	71,954	73,813	151	114	8.25	8.11	8.26	2.80	5.64	4.00
VII.—Diseases of the Circulatory System ...	4,325	4,145	70	73	0.41	0.49	0.46	1.61	2.62	2.56
VIII.—Diseases of the Respiratory System ...	91,930	97,360	362	383	11.65	10.35	10.90	15.11	13.53	13.44
IX.—Diseases of the Digestive System	126,160	129,711	264	314	15.39	14.21	14.52	8.89	9.87	11.02
X.—Non-venereal Diseases of the Genito-urinary System and Annexa	9,395	8,485	83	87	0.98	1.06	0.95	2.92	3.10	3.05
XI.—Diseases of Pregnancy, Childbirth and the Puerperal State...	2,537	2,461	76	60	0.27	0.29	0.28	2.18	2.84	2.11
XII.—Diseases of the Skin, Cellular Tissue, Bones and Organs of Locomotion	179,028	179,270	109	147	18.48	20.17	20.07	3.38	4.07	5.17
XIII.—Congenital Malformation and Diseases of Early Infancy	519	186	24	26	0.03	0.06	0.02	0.74	0.90	0.91
XIV.—Old age	243	547	26	36	0.06	0.03	0.06	1.81	0.97	1.26
XV.—Affections produced by External Causes ...	50,620	51,759	195	187	5.60	5.70	5.80	9.51	7.29	6.56
XVI.—Ill-defined Diseases	7,013	3,759	42	61	0.59	0.79	0.42	1.03	1.57	2.14
Total	887,554	893,231	2,676	2,849	100.00	100.00	100.00	100.00	100.00	100.00

TABLE B.—FINANCIAL

Approximate
Expenditure*Expenditure:*

Provision by Central Government :—	£	£
Ordinary recurrent, including additional provision by special warrant	290,440	326,830
Special, including additional by special warrant	5,300	5,875
Total ...	295,740	332,705
Provision by Native Authorities	32,324	28,529
From Colonial Development Fund "Sleeping Sickness Research"	1,750	1,684
From Colonial Development Fund "Sleeping Sickness, Mbulu District"	—	10,910
Total ...	34,074	41,123

Revenue:

By hospital, laboratory and other fees	39,000	46,274
By dental fees	1,000	1,248
By reimbursement by Tanganyika Railways for medical services	3,000	3,000
Total ...	43,000	50,522

